

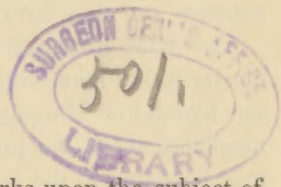
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FIBROUS BODIES IN THE TUNICA VAGINALIS TESTIS; WITH A REPORT OF THREE CASES.

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I HAVE thought it well to make these remarks upon the subject of fibrous bodies in the tunica vaginalis of the testicle, not only because of the inherent interest of their presence in that locality, but especially to emphasize their significance in determining the method by which the usually coexistent hydrocele shall be treated.

Many excellent text-books ignore the possibility of these bodies existing as a cause or complication of hydrocele, yet three cases have occurred in my practice within two years, and a search of the literature has demonstrated that they are by no means very rare. They may exist singly or in numbers; attached to the tunic or lying loose in the hydrocele sac. In size they vary from a pin-head to half an inch in diameter, although but one case is upon record of the latter dimension. The usual weight is from a fraction of a grain to five grains. In shape these bodies are generally smooth and polished like small beans, but may have become irregular by aggregation of two or more separate formations. A little pit or cup-shaped depression, when existing upon one side, is supposed to represent the vestige of a former pedicular attachment. Le Groux has recorded an instance where the body was cubical. In color they vary from white to dark yellow or red. In consistency, when fresh, they are usually firm and elastic, much resembling fibro-cartilage. When dry they become very hard and stony. These bodies have often been mistaken for bone because of calcification having taken place; in fact, this is a frequent degeneration. Yet some have unquestionably been proved to contain true bone. Usually but one body is found, but as many as five have been discovered in a single hydrocele.

There is reason to believe that loose bodies in the tunic almost invariably take origin from the walls of the sac, and particularly from

presented by the author -

those portions of the wall which invest the testicular surface. I have found reference to no case in which other origin has been proved. But, of course, the possibility of inflammatory bodies being formed in other portions of the tunic and being subsequently obtruded into the cavity must be acknowledged, as also must be granted the possibility of blood being effused and afterward becoming agglutinated into a fibrous or calcareous free body. It is likewise a possibility that the fluid of a cyst of the tunica vaginalis might precipitate certain of its contents and thus form the nucleus of a foreign body.

Too many observations are upon record to doubt that very many fibrous bodies take origin from the Müllerian duct and its extremity, the hydatid of Morgagni, and from that portion of the tunic in the neighborhood of the junction of the testicle and epididymis. They may be found in the layers of or beneath the tunics or be attached thereto by a pedicle of varying length and breadth. Reclus observes that they may very rarely be hidden in a pocket in the tunica vaginalis with a small opening communicating with the sac cavity—from whence they may be shot out by pinching if not attached by a pedicle. Encysted blood-clots (see Case II.) may likewise exist in the tunic, but have no opening into the main hydrocele sac.

Usually the bodies under consideration are found in small hydroceles, but rarely in large collections of fluid. It is presumable that many hydroceles are directly caused by the irritating presence of the bodies. Loose and pediculated bodies have also been found where there was no accompanying fluid. They are unknown in early life and are very rare before puberty.

The fluid of small hydroceles containing bodies is apt to be of a yellowish or brownish color and viscid consistency, and even a bloody effusion may be present. Signs of recurrent or chronic inflammation, such as thick walls, fibrous bands passing between various portions of the interior of the sac, and perhaps multiloculation due to fibrous inflammatory webs closing off portions of the vaginal wall, are often found to coexist with these peculiar bodies, especially where tapping or attempts at radical cure by irritant injections has been previously resorted to.

Upon section the bodies are generally found composed of concentric fibrous layers. These layers may be separated by colored lines due to deposit of blood pigment. The centre has occasionally a solid fibrous or calcareous nucleus; again, it may contain fluid or simply a dry cavity. The fluid, when present, may originate from the cystic interior of an hydatid of Morgagni or be derived from a blood-clot.

Bodies have also been found completely calcified. It is possible for them to originate as true dermoid cysts or to have elements of such inclusive remains for a nucleus. Thus Lange has reported a case in which he found two long hairs growing from a hydrocele sac, and others have recorded true dermoid cysts as well as free portions of true bone and cartilage in connection with hydroceles.

The ultimate derivation of these bodies, which for want of a better name have been termed "loose," "fibrous," or "strange," is of great interest and has received much thought from the time of Morgagni, who first observed, described, and named them, down to the present. The Cohnheim theory of inclusion of foetal tissues is at present the most widely accepted theory of the origin of the true "loose" bodies. Other varieties of bodies result from inflammatory deposits in the layers of the sac; almost always in the neighborhood of the globus major. These undergo fibrous and perhaps calcareous degeneration, become pediculated, and ultimately float free in the hydrocele upon rupture of the pedicle. Another method of origin is the formation of fibrous projections from the tunica vaginalis in the form of small papillomata of the endothelium, which later may become pediculated and subsequently free. This is the multiple variety, of which great numbers may be present. Blood-clot and other direct precipitations may, as has been said, originate another variety of the bodies. There are many instances recorded where the tunics or underlying tissues have become infiltrated through inflammation, senility, etc., with fibrous or calcific plaques. This variety alone may contain bloodvessels. Here pediculation or desquamation into the hydrocele sac rarely takes place, especially if the albuginea is involved. Sir Joseph Fayer speaks of this variety as of not infrequent occurrence in India, where hydroceles are prone to have very thick walls.

The symptoms indicating the presence of bodies in a hydrocele are vague and uncertain. But when a small cyst is present, giving rise to a sense of heaviness and originating unusual pain, and, moreover, if the walls are thick, or failure to cure by irritant injection has taken place, or if great pain or inflammation has followed tapping, the presence of bodies may be suspected. Free bodies might be observed by the light test, but owing to the usual position of attachment to the testicle it will generally fail. A careful study of the cyst by means of the recently devised electric hydrocele illuminator of Otis would certainly facilitate the search if the walls were translucent and the fluid clear.

Granting the presence of one or more bodies, it is probable, if not

positive, that nothing short of incision of the sac and their removal will prevent recurrence of the hydrocele. My strong individual preference, as elsewhere stated at length,¹ in the treatment of such hydroceles is to split the sac to its full length, remove the bodies, curette any additional cysts, suture the edges of the sac to the wound margins, and pack with iodoform gauze until healing by granulation takes place.

CASE I.—An Italian, aged thirty-seven years, was brought to me at the Polyclinic Hospital by Dr. J. M. Malatesta. He stated that he had had a swelling of the left testicle for several years, and that it had been twice operated upon in Italy—whether it had been injected he did not know. Pain and a sense of weight were marked features of the case. No light could be seen through the swelling.

In view of the previous failures, the painfulness of the tumor and its failure to transmit light, I determined to incise the cyst and investigate. An incision to the whole length of the sac was made and its walls found to be very tough and thick. The contents presented the usual appearance of hydrocele fluid. The sac was then inverted by turning the testicle out and the latter organ found to be attached to the base of the tunica vaginalis by firm adhesions which were honeycombed by a great number of subsidiary cysts varying from the size of a shot to that of a large pea. These small cysts were grouped mostly about the globus minor and body of the epididymis, but appeared to have no communication therewith. There were also found on the lower portion of the visceral layer of the tunica vaginalis in the same neighborhood several small calcareous tumors, the largest weighing two grains and well pediculated—about half a dozen in all. They sprang directly from the tunic, and the largest could easily have been broken from its pedicle and become a loose body in the cyst.

The small cysts were all split and curetted out, the foreign bodies removed by scraping, the sac edges sutured to the wound margins, the cavity of the tunica vaginalis stuffed lightly with a strip of iodoform gauze, and an antiseptic dressing applied over all. On the second day the packing was removed, the cavity washed out with peroxide of hydrogen first and with 1:2000 bichloride of mercury solution afterward and the packing replaced. This was repeated every second day until ten days had elapsed, when the cavity had become obliterated by granulations. The wound edges now rapidly cicatrized and approximated. At each subsequent dressing the line of granulations marking the wound were touched with stick nitrate of silver until complete healing was secured. On the fourteenth day he resumed his occupation, and on the twenty-fourth day after operation the last granulation had closed over.

This case illustrates bodies of inflammatory origin.

CASE II.—German, aged fifty years. Small hydrocele that had existed some years. Pain and weight were prominent symptoms. Transmitted light. Upon incision several cyst-like, somewhat pediculated growths from the

¹ Philadelphia Polyclinic, September, 1892.

tunica vaginalis in the neighborhood of the globus major on the testicular surface were observed. These were in turn cut off by dividing the pedicle with scissors. Free hemorrhage of venous character took place from the pedicles, but ceased as soon as the usual iodoform-gauze packing was inserted. The case promptly recovered and was afterward free of his former painful sensations. The growths proved to be blood-clots undergoing fibrous changes encapsulated by layers of the tunica vaginalis.

CASE III.—A Russian, aged thirty-eight years. Hydrocele of one year's duration. Much pain, uneasiness, and sense of weight in scrotum. Thinking it a rupture, he has been wearing a truss for some months. Tumor quite small and transmits light freely. Upon making the usual incision a free fibrous body two lines by three lines in diameter, of flattened globular shape, was discovered at the base of the sac. Fluid was straw-colored and amounted to about three ounces. The lining membranes were apparently healthy. Spasm of the dartos in this case prevented immediate packing with iodoform gauze and caused obtrusion of the testicle. This necessitated temporary suturing of the wound surfaces across the testicle in addition to stitching the sac to the wound on each side of the incision. In twenty-four hours the dartos had relaxed and the skin sutures were cut and the packing placed in the much-contracted sac. Prompt and satisfactory obliteration of the sac resulted and the man became entirely relieved of his distress.

This case probably was one of true fibrous or loose body originating from the hydatid of Morgagni or foetal remains.

CONCLUSIONS.—1. Probably fibrous bodies are more frequently present in hydroceles than has been suspected.

2. Probably they not rarely originate hydroceles.

3. Probably their presence occasionally prevents the radical cure of hydroceles by irritant injections.

4. Fibrous bodies are to be suspected in small, painful hydroceles—particularly those which have promptly recurred after irritant injection or where excessive pain or inflammation or both have succeeded the injection.

5. That when the bodies are present nothing short of their removal by incision and thorough exposure of the interior of the sac will give relief.

6. That the possibility of their presence is an additional and strong argument in favor of the only thorough and certain radical cure for hydrocele, namely, incision and packing with iodoform gauze.

